

Isamu UMEZAKI*: *On Elachista nipponica, a new species*
from Japan

梅崎 勇*: 日本産褐藻類ナミマクラ属の一新種 *Elachista nipponica*
について

Elachista nipponica sp. nov. Thallus parvos lubricos subsphaerico pulvinos formatus, ad 5 mm crassus, ad *Sargasso* epiphyticus, pars basis non conspicuus; assimilatio-pilis ex base thalli originatibus, maxime longis, ad 5 mm longis, non ramosis, bases tenuis et sursum sensim incrassatis, ad apices interdum parvum attenuatis, cellulis apicem assimilatio-pilorum $18-25\mu$ crassis, $12-33\mu$ longis, subquadratis, dolii-formis vel sensim diametro longioribus, ad septas constrictis; cellulis basis assimilatio-pilorum $6-15\mu$ crassis, $15-33\mu$ longis, 2-vel 3-plo diametro longioribus; medulla ex hyalinis filamentis composita, dichotome ramosa; cellulis medullarum hyalinis, $6-7\mu$ crassis, $18-40\mu$ longis, 3-6-plo diametro longioribus, cylindraccis; assimilatoris leviter curvatis, ad apices sensim incrassatis, $8.5-15\mu$ crassis, subquadratis vel longo dolii-formis, ad septas constrictis; uniloculo-sporangiis ad bases assimilatorum laterale nascitis, ellipsoideis vel ovatis, $30-40\mu$ crassis, $70-110\mu$ longis; pluriloculo-organii modificationibus vegetatio-cellularum assimilatio-pilosum proferatis, maturatibus leviter projectibus; pilis ignotibus.

Plant epiphytic on *Sargassum*, forming small lubricous, spherical tufts, up to 5 mm broad, the basal part not conspicuous; assimilatory hairs arising from the basal system of the thallus, beyond the assimilatory zone, very long, up to 5 mm long, simple, slender below and becoming thicker upwards, sometimes slightly attenuated near the apices, cells of the upper part $12-33 \times 18-25\mu$ in size, nearly quadrate or barrel-shaped, or somewhat longer than the diameter, constricted at the joints; cells of the lower part $15-33 \times 6-15\mu$ in size, 2 or 3 times as long as the diameter; medulla parenchymatous, consisting of colourless filaments densely packed, several times dichotomously branched, their upper branches developing into assimilators, the medullary cells hyaline in colour, $6-7\mu$ broad, $18-40\mu$ long, 3-6 times as long as the diameter, cylindrical

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in shape; assimilators slightly curved, becoming slightly thicker upwards, 8.5–15 μ broad, nearly quadrate or long barrel-shaped, constricted at the joints; unilocular sporangia laterally borne on the base of assimilators, ellipsoidal or oval in shape, 30–40 \times 70–110 μ in size; plurilocular organs formed by modification of vegetative cells between apex and middle of an assimilatory hair, when mature slightly projected; hairs unknown.

Type: Cape Bakuchi, Maizuru Bay, Kyoto Pref. Epiphytic on *Sargassum ringgoldianum* Harv., Umezaki no. 2698, 10 March 1950. (In Herbarium, Department of Fisheries, Faculty of Agriculture, Kyoto University, Maizuru).

Specimens examined: Cape Bakuchi, Maizuru Bay, Kyoto Pref. Epiphytic on *Sargassum hemiphyllum* C. Ag., Umezaki no. 2758, 1 May 1961. Sanbonmatsuhana, Maizuru Bay, Kyoto Pref. On *Sargassum thunbergii* (Mert.) O. Kuntze, Umezaki no 3499, 23 April 1964. Nagahama, Maizuru Bay, Kyoto Pref. On *Sargassum ringgoldianum* Harv., Umezaki no. 3443, 10 February 1964. Kada, Wakayama Pref. On *Sargassum ringgoldianum* Harv., Umezaki nos. 3183, 3215, 7 June 1963. Mikuni, Fukui Pref. On *Sargassum hemiphyllum* C. Ag., Umezaki no. 2940, 20 April 1962.

In the new species the plurilocular organs and unilocular sporangia have never been found together on one and the same thallus, both being always produced on separate plants, although the individual plants may grow together on the same *Sargassum* host. The species is closely related to *Elachista lindaueri* Chapman (Lindauer, Chapman & Aiken, in *Nova Hedwigia*, **3**: 215, 1961), but it is distinguished from the latter in that a) the assimilatory hairs from the basal system common with the filaments bearing unilocular sporangia, and in b) the plurilocular organs are produced from the cells of the assimilatory hairs. In *Elachista lindaueri*, whose authentic specimen (Herbarium of V. W. Lindauer in Herbarium Auckland University, no. 2591) has been examined by the present writer by the courtesy of Prof. V. J. Chapman, the assimilatory hairs are developed from the outer medullary layer and the plurilocular sporangia, which have not been found in the above authentic specimen, are produced in the cells of the assimilators, according to the diagnosis of the species. In the present new species the plurilocular organs, which may be gametangia, are formed serially or in an intercalary manner on the upper or from the upper to the middle part of an assimilatory hair. Such sporangia are also known to occur in *Elachista lubrica* Rupr. (Fritsch, *Structure and Reproduction of the Algae*,



Fig. *Elachista nipponica*. A, habit of plants epiphytic on leaves of *Sargassum ringgoldianum*. $\times 2/3$. B, part of plant, showing unilocular sporangia, assilators, and assimilatory hairs. $\times 100$. C, assimilatory hair with plurilocular organs. $\times 100$. D, part of two assimilatory hairs with plurilocular organs. $\times 170$. E, a, b, c, showing three stages in development of a unilocular sporangium and d, an emptied unilocular sporangium. $\times 170$.

2: 68, f. 13 J, 1945). Usually, the first division of the formation of plurilocular organs takes place through a plane perpendicular to the long axis of

the filament, and the second and third divisions are made either by a longitudinal or transverse plane to the first, ultimately producing twelve to twenty-four spores. During spore-formation the plurilocular organ becomes gradually enlarged, being slightly projected over the outer surface when well mature. The mature organ is subdivided into small compartments, numbering four to eight in surface view, each containing a single motile body. When mature an opening is formed on the lateral wall of the sporangium through which motile bodies are liberated.

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褐藻類ナガマツモ目ナミマクラ科ナミマクラ属の一新種 (*Elachista nipponica*) はホンダワラ属植物上に着生して発見され、若狭湾の数箇所および和歌山市加太海岸から採集された。本新種はニュージーランド産の *Elachista lindaueri* Chapman に近縁であるが、その準基本標本との比較の結果、その同化糸はその植物体の基部より発出していること、複子嚢は同化糸細胞から変成されることにより、明らかに区別される。

○高等植物分布資料 (37) Materials for the distribution of vascular plants in Japan (37)

○チャボガヤ *Torreya nucifera* Sieb. et Zucc. var. *radicans* Nakai 東北地方から中国地方にかけて、裏日本気候帯の地域に分布する。低山のナラ林の下床植物として点生するようで、ハイイヌガヤのような普通品ではない、此のチャボガヤを長野県諏訪市中洲の諏訪大社（通称上社〈カミシャ〉）の社叢に見出した（1964年5月30日）。此所は表日本気候帯にあり、最大積雪量は40cmに足りない（長野県気象累年報）、本来の自生と思えるので、例外的な産地として報告する。

○ノッポロガンクビソウ *Carpesium Koidzumii* Mak. var. *Matsuei* Hara 上記の場所で同日に茎、葉のみの株を採集したが、下部の葉が卵形心脚で大きいので間違いないと信ずる。ガンクビソウでは余程發育良好な個体でも鈍〜円脚である。ノッポロガンクビソウも裏日本系の要素であるから、チャボガヤ同様に例外的産地と言えよう。但し、関東一東海地方でタカオガンクビソウ *C. Kishidai* Nakai と称している1形と表現型は区別困難であり、ガンクビソウ、ホソバガンクビソウを含めて細心な細胞分類学的検討を必要とする。

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